

REMARKS

Claims 1-5, 7-22 and 28-31 are pending, with Claims 1, 28, and 30 being independent.

Applicants filed a Petition under 37 C.F.R. § 1.181, seeking the group director's review and withdrawal of the decision to advance a new grounds for rejection in the final Office Action mailed on January 8, 2004. As there has apparently been no action on Applicants' Petition, Applicants are filing a Request for Continued Examination, and submitting this Response After Final Rejection. If a favorable decision on the Petition is entered, Applicants will seek a refund of all fees authorized herein.

The Rejections

Claims 1-4, 7-8, 14-21, and 28-31 were newly rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin et al., in view of Manov et al., and Schmidt. Claim 22 was newly rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin et al., in view of Manov et al., and Schmidt, and further in view of Riley et al. Claim 5 was newly rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin et al., in view of Manov et al., and Schmidt, and further in view of Collins. Claims 10-12 were newly rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin et al., in view of Manov et al., and Schmidt, and further in view of Osuna-Diaz et al. Claim 13 was newly rejected under 35 U.S.C. § 103(a) as being unpatentable over Lin et al., in view of Manov et al., and Schmidt, and further in view of Goldwin.

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Applicants respectfully traverse all outstanding art rejections, and submit that the new rejections based on Lin et al. were improperly made final, denying Applicants a full opportunity to respond to the rejections.

The Cited Art

Lin et al. discloses a thick film resistive element heater, where the substrate is formed from a metal having a high coefficient of thermal expansion, such as aluminum. There is no disclosure of forming a circumferentially discontinuous heater on a non-flat substrate.

Applicants note that Lin et al. qualifies as prior art only under 35 U.S.C. § 102(e). Applicants reserve the right to submit materials to antedate this reference.

Manov et al. discloses a heater formed by a ribbon element sandwiched between two plastic sheets joined together as a unit, where the sheets may be cylindrical, and the ribbon element may exhibit a circumferentially discontinuous pattern. The ribbon element is made from amorphous metallic material, not thick film ink. The pattern of the ribbon element in Manov et al. allows both ends of the trace to be provided on the same side of the heater.

Schmidt discloses a band heater clamp for an injection molding machine, where the inner sleeve has an axial slot extending through its length to allow for differences in the expansion and contraction of the inner and outer sleeves when exposed to temperature changes.

The Cited Art Cannot Be Properly Combined

When applying 35 U.S.C. 103 to a claimed invention, the following requirements apply:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) The standard under which a determination of obviousness is made is the reasonable expectation of success standard.

See Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

Under this standard, the Lin et al. reference cannot be properly combined with Manov et al. and Schmidt. As will be set forth fully below, Applicants submit that there is no teaching in any of Lin et al., Manov et al., or Schmidt to support their combination, and that in fact these references teach away from such a combination. Any attempt at combination impermissibly relies upon the hindsight provided by Applicants' disclosure.

Lin et al. describes a process of thick film printing (via thermal spraying, laser cading, or direct writing) a heating element circuit pattern on a dielectric layer that is provided over a metal substrate (preferably aluminum). Although Lin et al. indicates that it is possible for the circuit pattern to have irregular *continuous* traces (see col. 6, lines 39-40), there is no suggestion that a

circumferentially discontinuous pattern may be formed by the thick film, or that such a pattern would be beneficial for a resistive trace made with ink.

Manov et al. teaches a circumferentially discontinuous pattern formed from an amorphous metallic ribbon element sandwiched between two plastic sheets joined together as a unit. The sheets may be cylindrical. See column 8, lines 50-53. There is no teaching or suggestion in Manov et al. that such a circumferentially discontinuous pattern be formed of thick film ink, or that such a pattern be applied to a non-flat thermally conductive substrate. One skilled in the art at the time of the invention would not combine these divergent references to arrive at the claimed invention, nor would there be any motivation to do so. It is suggested in Paragraph 3 of the Office Action that one skilled in the art would be motivated to combine Lin et al. and Manov et al. because the pattern used in Manov et al. could compensate for the longitudinal slot in the heater body. However, none of the pending independent claims require a longitudinal slot (this feature is found only in dependent claims 4 and 13), and therefore one skilled in the art would not be motivated to combine Lin et al. and Manov et al. to accommodate a longitudinal slot.

Further, Applicants submit that there is no other need or motivation for one skilled in the art to apply the circumferentially discontinuous, amorphous, metallic ribbon element provided between plastic sheets, as disclosed in Manov et al., to the thick film element heater element formed on a conductive metal substrate disclosed in Lin et al. Lin et al. and Manov et al. cannot be properly combined.

Schmidt is cited for its disclosure of a band heater clamp arrangement for an injection molding machine. An inner sleeve of the band heater has an axial slot that extends through the length of the sleeve, thereby accommodating the

different rates of expansion and contraction of the inner and outer sleeves. With respect to the disclosure of Schmidt, Applicants again submit that a longitudinal slot is not required by any of the independent claims, and therefore the teachings of Schmidt are irrelevant, and do not provide any motivation for one skilled in the art to combine Lin et al., Manov et al., and Schmidt to arrive at the presently claimed invention.

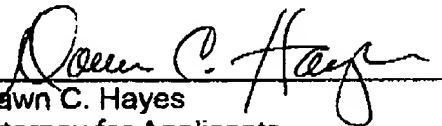
Accordingly, Applicants request that all rejections based on the improper combination of Lin et al. with Manov et al. and Schmidt be withdrawn. The secondary references Riley et al., Collins, Osuna-Diaz et al., and Goldwin do not remedy the deficiencies of the combination of Lin et al., Manov et al., and Schmidt, as set forth above, and therefore they are not being addressed separately.

Conclusion

In view of the amendments and remarks set forth above, Applicants submit that this application is in condition for allowance, and respectfully request prompt issuance of a notice thereof.

Applicants' undersigned agent may be reached by telephone at (202) 625-3500. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,


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